We claim:

1. A device for hearing evaluation of a subject comprising:

means for repeatedly delivering auditory stimuli;

means for sampling electroencephalographic responses to said stimuli; and

means for determining that no Auditory Brainstem Response ("ABR") waveform is present in said electroencephalographic responses.

2. A system for hearing evaluation of a subject comprising:

a transducer having an audible click output stimulus;

an electrode system adapted to detect an electroencephalographic response to said stimulus; and

a processor, responsive to said electroencephalographic response, having

means for sampling the electroencephalographic response;

means for processing the sampled electroencephalographic response; and

means for determining that no ABR waveform is present in said electroencephalographic responses.

3. A device for hearing evaluation of a subject comprising:

means for repeatedly delivering auditory stimuli;

means for sampling electroencephalographic responses to said stimuli; and

means for predicting that no ABR will be detected in said electroncephalographic responses.

4. The device according to claim 3, wherein the means for predicting that no ABR will be detected in said electroncephalographic response comprises:

means for detecting the presence of an ABR within a predetermined number of electroencephalographic responses; and

means for determining, with fewer than said predetermined number of

electroencephalographic responses, that the probability that an ABR will be detected is statistically low.

5. A system for hearing evaluation of a subject comprising:

a transducer having an audible click output stimulus;

an electrode system adapted to detect electroencephalographic responses to said stimulus; and

a processor, responsive to said electroencephalographic responses, having

means for sampling said electroencephalographic responses;

means for processing said sampled electroencephalographic responses; and

means for predicting that no ABR will be detected after a predetermined number of said electroencephalographic responses.

6. The system according to claim 5, wherein the means for predicting that no ABR will be detected in said electroencephalographic response comprises:

means for detecting the presence of an ABR within a predetermined number of electroencephalographic responses; and

means for determining, with fewer than said predetermined number of electroencephalographic responses, that the probability that an ABR will be detected is statistically low.

7. A method for hearing evaluation of a subject, comprising the steps of:

repeatedly delivering auditory stimuli;

sampling electroencephalographic responses to said stimuli; and

determining that the probability is statistically low that an ABR waveform is present in said electroencephalographic responses.

8. A method for hearing evaluation of a subject, comprising the steps of:

repeatedly delivering auditory stimuli;

sampling electroencephalographic responses to said stimuli; and

predicting that no ABR will be detected in said electroencephalographic responses.

9. A method of evaluation for hearing loss which comprises the steps of:

repeatedly delivering auditory stimuli to a subject;

measuring electroencephalographic responses to said stimuli, said responses having an amplitude polarity at each point in time;

digitizing said electroencephalographic responses;

transforming said digitized electroencephalographic responses into a series of binary numbers corresponding to the polarity of the amplitude of said electroencephalographic responses;

transforming said binary numbers into an array of polarity sums;

calculating a test statistic $z_{max}$ based upon said array of polarity sums; and

determining the probability that no ABR waveform is present in said electroencephalographic responses by analysis of said test statistic $z_{max}$.

10. The method according to claim 9, wherein the step of determining that no ABR waveform is present in said electroencephalographic responses by analysis of said test statistic $z_{max}$ comprises:

calculating an expected mean value of $z_{max}$;

comparing $z_{max}$ with said expected mean value by using a distance factor; and

determining that the probability that no ABR waveform is present in said electroencephalographic responses is statistically low when the distance factor is below a predetermined threshold.

11. The method according to claim 10, wherein the expected mean value of $z_{max}$ is derived from normative data.

12. The method according to claim 11, further comprising the steps of:

calculating a signal to noise ratio;

taking into account the signal to noise ratio in calculating the expected mean value of

$z_{max}$.

13. The method according to claim 12, further comprising providing the predetermined threshold as -1.3.

14. A method of evaluation for hearing loss which comprises the steps of:

repeatedly delivering auditory stimuli to a subject;

measuring electroencephalographic responses to said stimuli, said responses having an amplitude polarity at each point in time;

digitizing said electroencephalographic responses;

transforming said digitized electroencephalographic responses into a series of binary numbers corresponding to the polarity of the amplitude of said electroencephalographic responses;

transforming said binary numbers into an array of polarity sums;

calculating a test statistic $z_{max}$ based upon said array of polarity sums; and

determining the presence of adverse evaluation conditions by analysis of said test statistic $z_{max}$.

15. The method according to claim 14, wherein the step of determining the presence of adverse evaluation conditions by analysis of said test statistic $z_{max}$ comprises:

calculating an expected mean value of $z_{max}$;

comparing $z_{max}$ with said expected mean value by using a distance factor; and

determining the presence of adverse evaluation conditions when the distance factor is above a predetermined threshold.

16. The method according to claim 15, wherein the expected mean value of $z_{max}$ is derived from normative data.

17. A method of evaluation for hearing loss which comprises the steps of:

repeatedly delivering auditory stimuli to a subject;

measuring electroencephalographic responses to said stimuli, said responses having

an amplitude polarity at each point in time;

digitizing said electroencephalographic responses;

transforming said digitized electroencephalographic responses into a series of binary numbers corresponding to the polarity of the amplitude of said electroencephalographic responses;

transforming said binary numbers into an array of polarity sums;

calculating a test statistic $z_{max}$ based upon said array of polarity sums; and

predicting that no ABR will be detected in said electroencephalographic responses by analysis of the test statistic $z_{max}$.

18. The method according to claim 17, wherein the step of predicting that no ABR will be detected after a predetermined number of electroencephalographic responses by analysis of the test statistic $z_{max}$ comprises:

calculating an expected mean value of $z_{max}$;

comparing $z_{max}$ with its expected mean value by using a distance factor; and

predicting that no ABR will be detected after a predetermined number of electroencephalographic responses when the difference factor is below a predetermined threshold.

19. The method according to claim 18, wherein the expected mean value of $z_{max}$ is derived from normative data.

20. The method according to claim 19, additionally comprising the steps:

calculating a signal to noise ratio;

taking into account the signal to noise ratio in calculating the expected mean value of $z_{max}$.

21. The method according to claim 17, further comprising providing the predetermined threshold as -1.3.

22. A method for detecting an evoked response, comprising the steps of:

delivering stimuli;

sampling responses to said stimuli; and

predicting that said responses do not contain said evoked response.

23. The method according to claim 22, wherein the step of predicting that said responses do not contain said evoked response comprises:

determining the statistical distribution of said responses;

calculating the probability that said statistical distribution would occur given the existence of said evoked response; and

comparing said probability to a predetermined threshold.

24. A method for detecting an evoked response, comprising the steps of:

delivering stimuli;

sampling responses to said stimuli; and

predicting that said responses contain said evoked response.

25. The method according to claim 24, wherein the step of predicting that said responses contain said evoked response comprises:

determining the statistical distribution of said responses;

calculating the probability that said statistical distribution would occur given the absence of said evoked response; and

comparing said probability to a predetermined threshold.

26. A method of evaluation for hearing loss which comprises the steps of:

repeatedly delivering auditory stimuli to a subject;

measuring electroencephalographic responses to said stimuli, said responses having an amplitude polarity at each point in time;

digitizing said electroencephalographic responses;

transforming said digitized electroencephalographic responses into a series of binary numbers corresponding to the polarity of the amplitude of said

electroencephalographic responses;

transforming said binary numbers into an array of polarity sums;

calculating a test statistic $z_{max}$ based upon said array of polarity sums; and

using regression analysis to determine the probability that no ABR waveform is present in said electroencephalographic response.

27. A method of evaluation for hearing loss which comprises the steps of:

repeatedly delivering auditory stimuli to a subject;

measuring electroencephalographic responses to said stimuli, said responses containing a signal parameter;

digitizing said electroencephalographic responses;

calculating a test statistic based upon said signal parameter; and

determining the probability that no ABR waveform is present in said electroencephalographic response by analysis of said test statistic.

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